b) Atriums.

c) Performance Based Criteria. d) Means or Egress Analysis. e) Fire Assembly Locator Sheet.

f) Exterior and Interior Accessibility Route.

g) Fire Stopping, Including Tested Design Number.

PROJECT TEAM **ARCHITECT:** DFCM UVSC **AXIS ARCHITECTS** Kurt Baxter James L. Michaelis Pierre O. Langue AIA **Project Manager** Associate Vice President 610 I Street 4110 State Office Bldg. Facilities Planning Salt Lake City, Utah 84103 Salt Lake City, Utah 84114 800 West University Parkway phone (801)355-3003 Orem, Utah 84058-5999 phone (801) 538-3174 fax (801)355-8578 phone (801)863-8776 STRUCTURAL: MECHANICAL: **ELECTRICAL:** Spectrum Engineers **BNA Consulting** Bsumek Mu Reinardt Bsumek Wade Bennion Carol Feldman 345 South 400 East 175 South Main Street 635 S. State Street

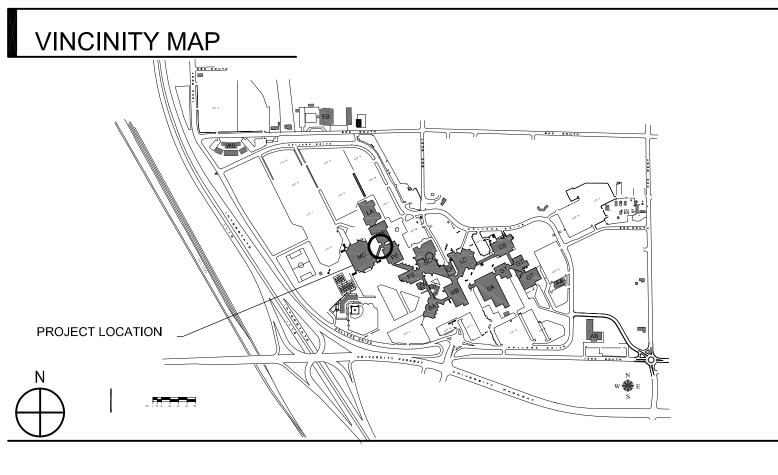
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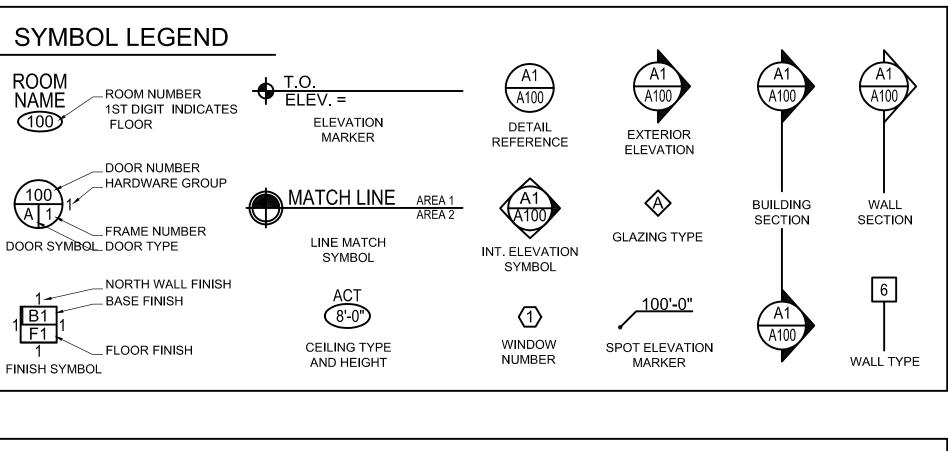
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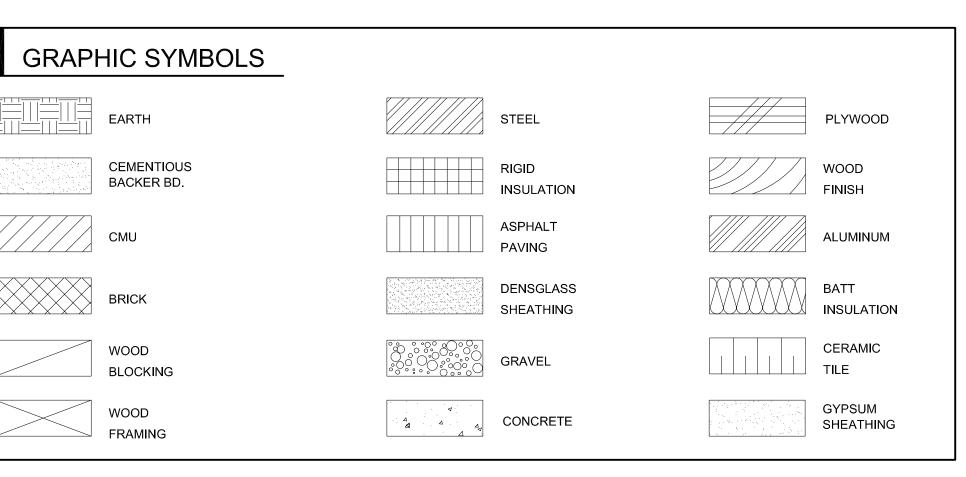
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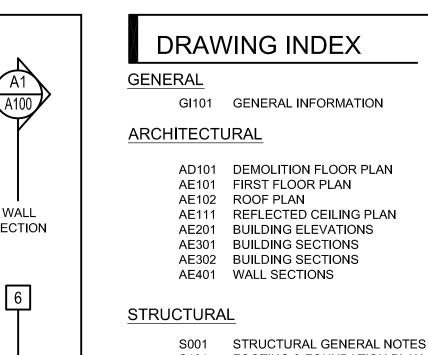
phone (801)355-3003

fax (801)355-8578











MECHANICAL

ME001 MECHANICAL SYMBOLS LEGEND MD101 MECHANICAL DEMOLITION PLAN MH101 MECHANICAL FLOOR PLAN

ELECTRICAL

EG101 ELECT. SYMBOLS SCHEDULES AND NOTES EE101 ELECTRICAL FLOOR PLAN

NOTE: THE SHEETS LISTED ABOVE REPRESENT A FULL SET OF CONSTRUCTION DOCUMENTS AND INCLUDE A DETAIL BOOK AND A PROJECT MANUAL AND SHALL NOT VENDOR OR ANY OTHER PERSON PARTICIPATING IN OR BIDDING ON THIS PROJECT SHALL BE RESPONSIBLE FOR REVIEWING ALL THE CONSTRUCTION DOCUMENTS INCLUDING BUT NOT LIMITED TO DRAWINGS, DETAILS, PROJECT MANUAL, SPECIFICATIONS AND ANY AND ALL

UTAH VALLEY STATE COLLEGE HALLWAY STUDY AREA INFILL Orem, Utah PHYSICAL EDUCATION BUILDING BUILDING: B-2 Unlimited Area II B - Fire Sprinkled Construction: DFCM PROJECT # 05264790 LOT M PROJECT LOCATION Utah Valley State College

05

SPECIAL EVENT CENTER

A2-1 UNLIMITED AREA

I A - Fire Sprinkled

State of Utah

Department of Administrative Services

Division of Facilities Construction & Management

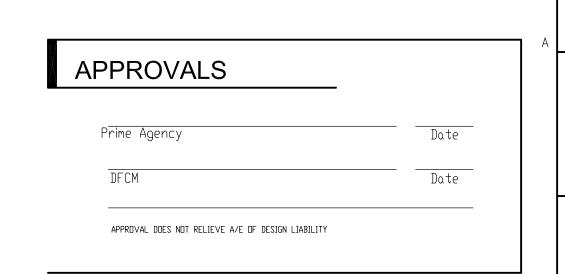
4110 State Office Building

Salt Lake City, Utah 84114

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January 15 2006



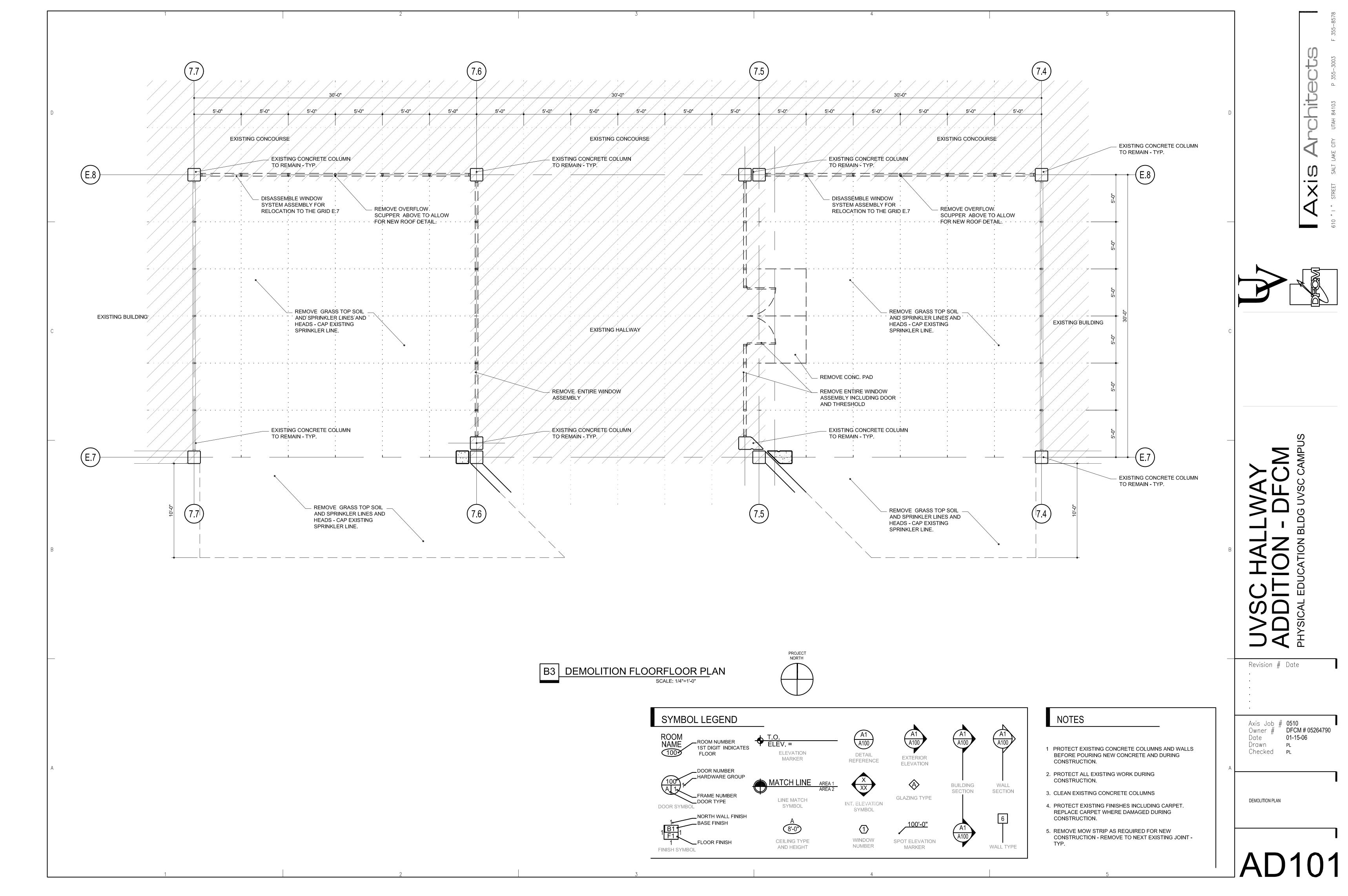
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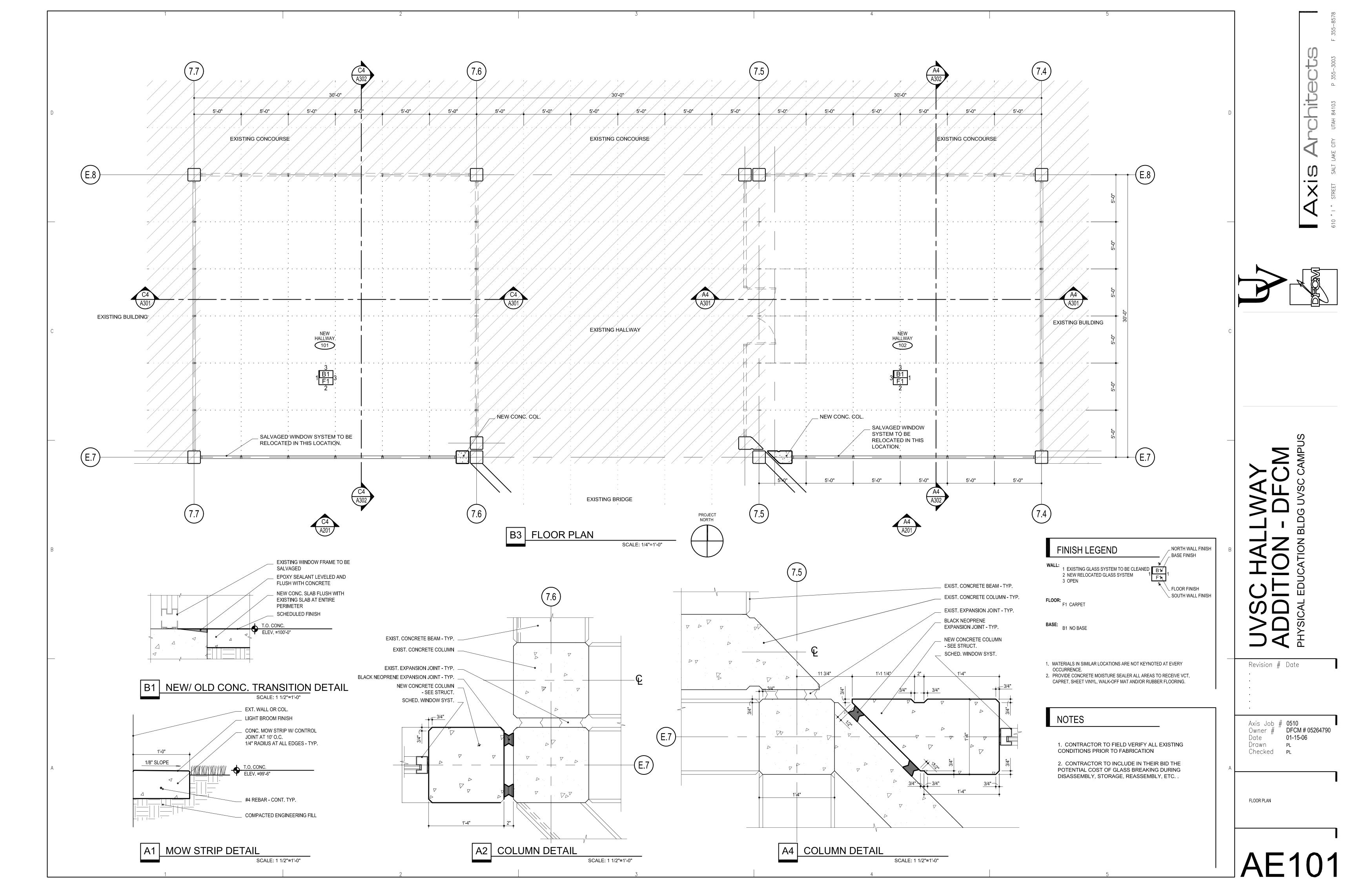
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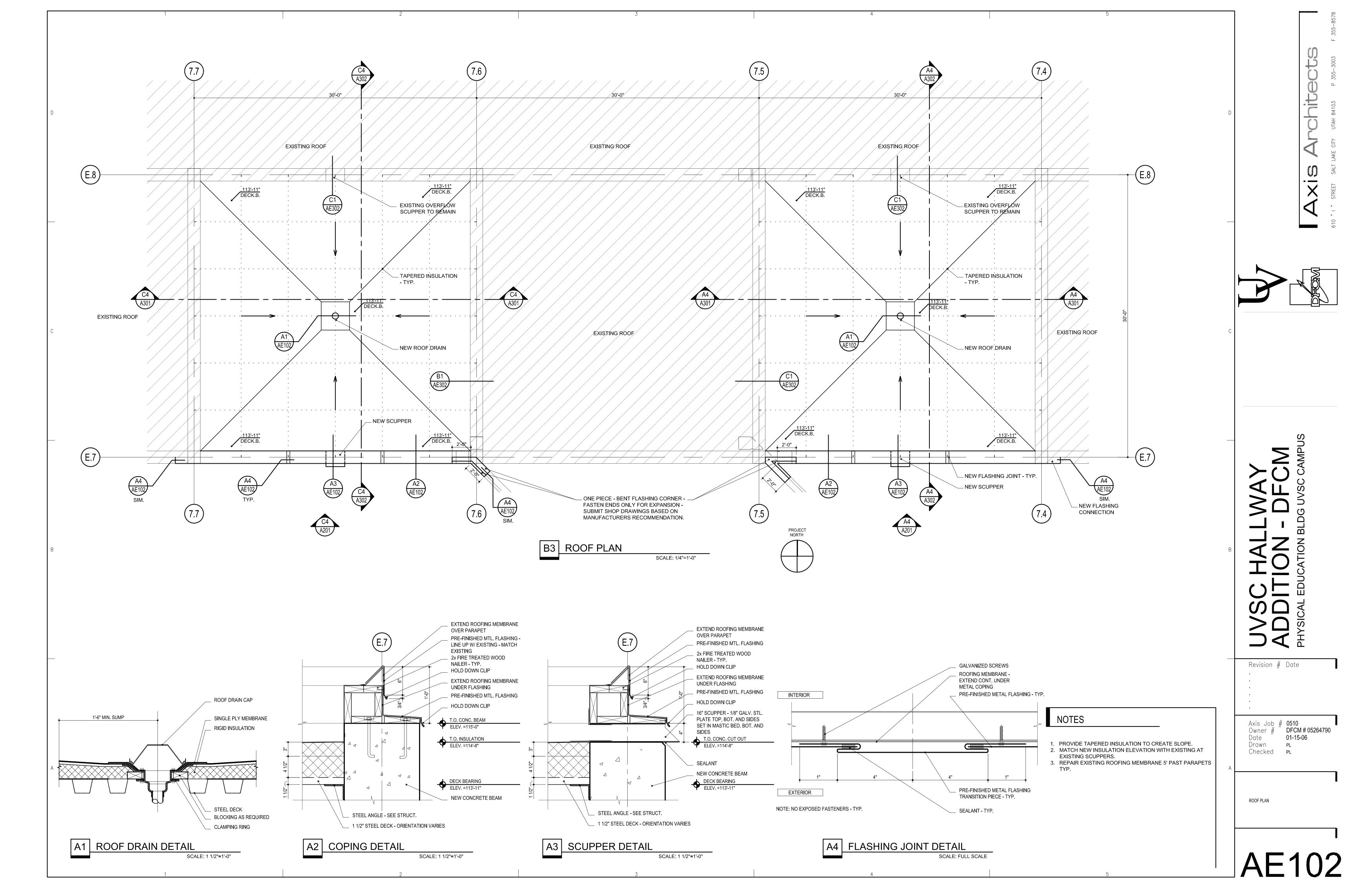
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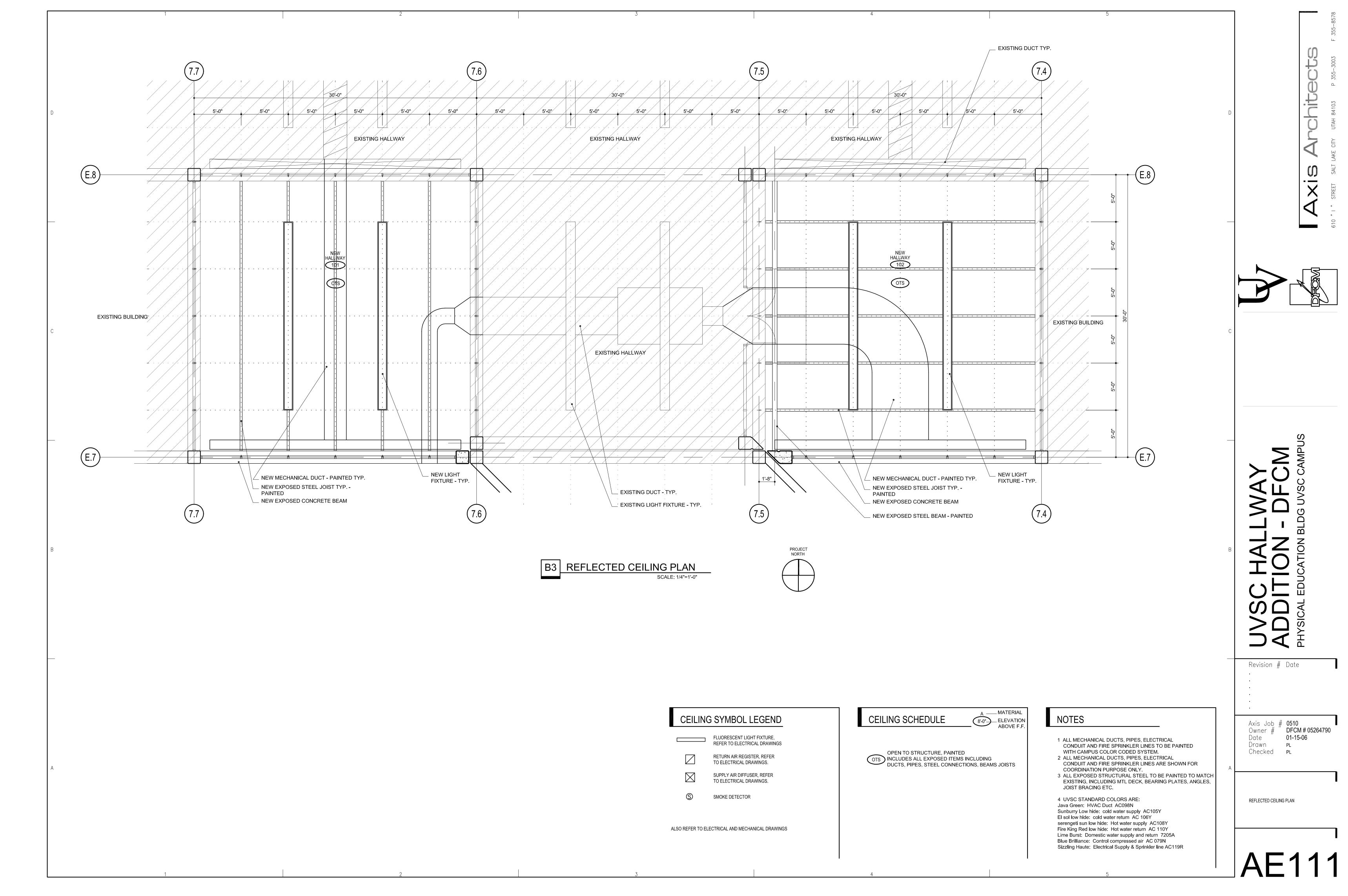
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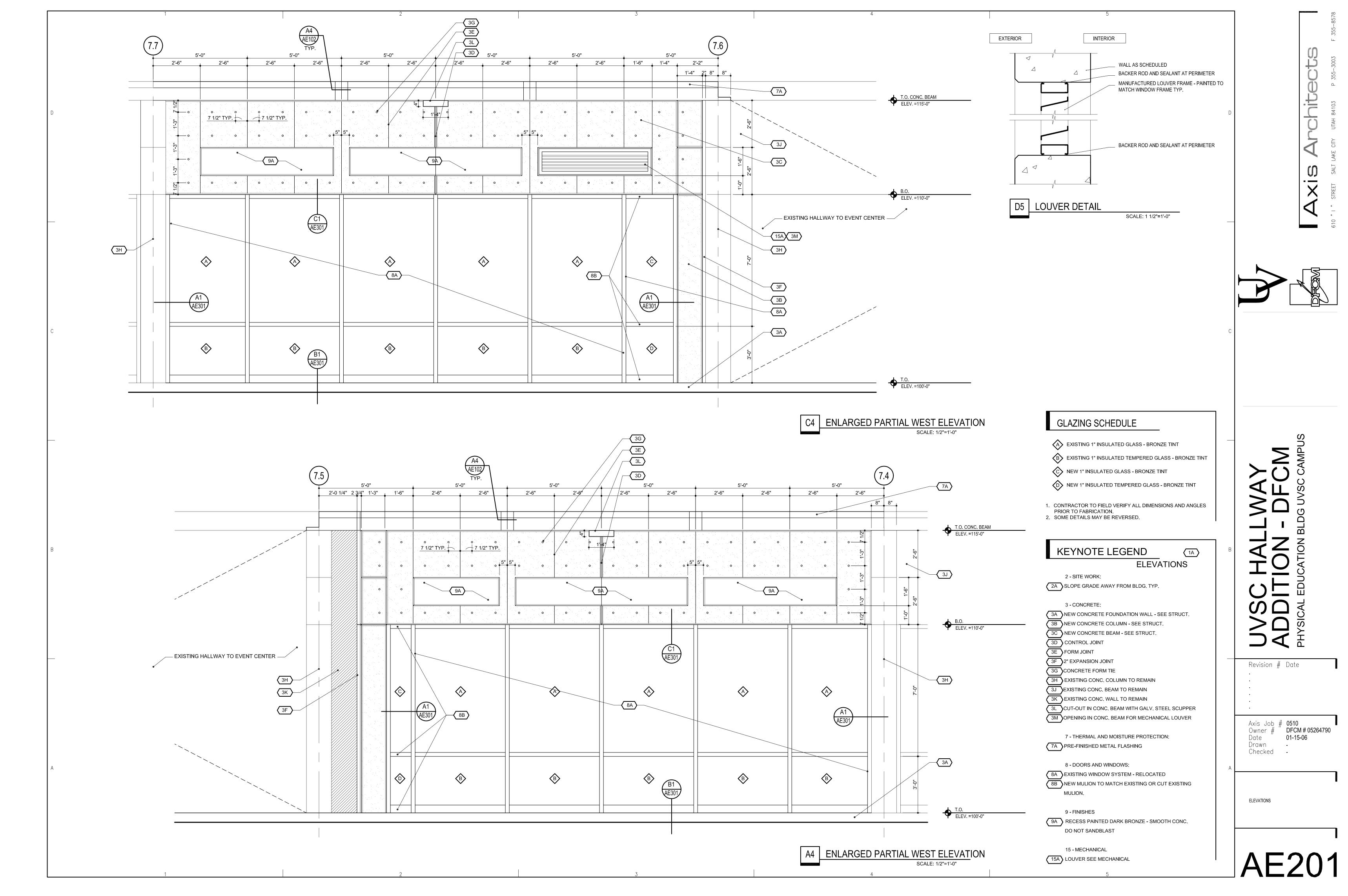
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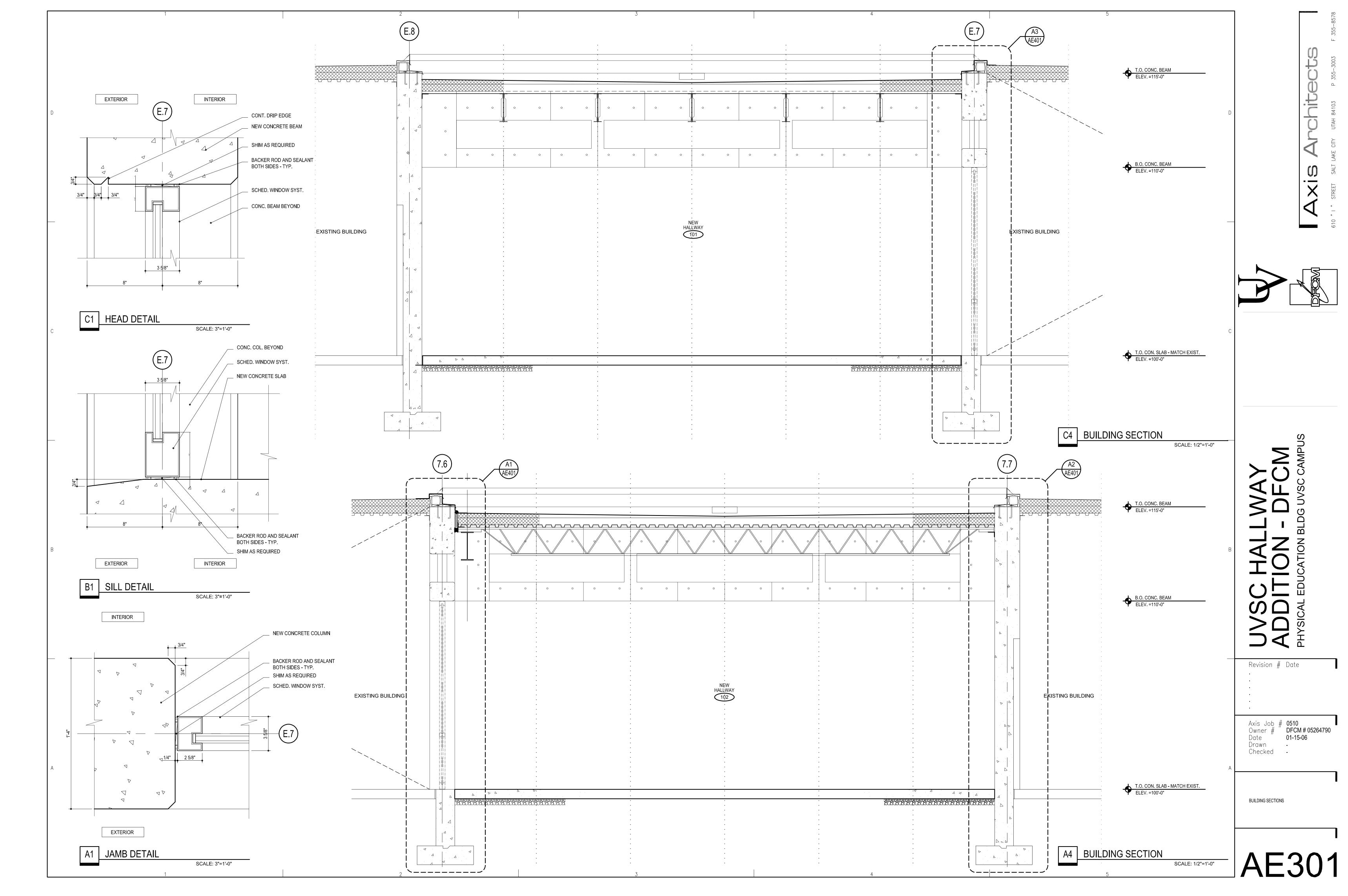


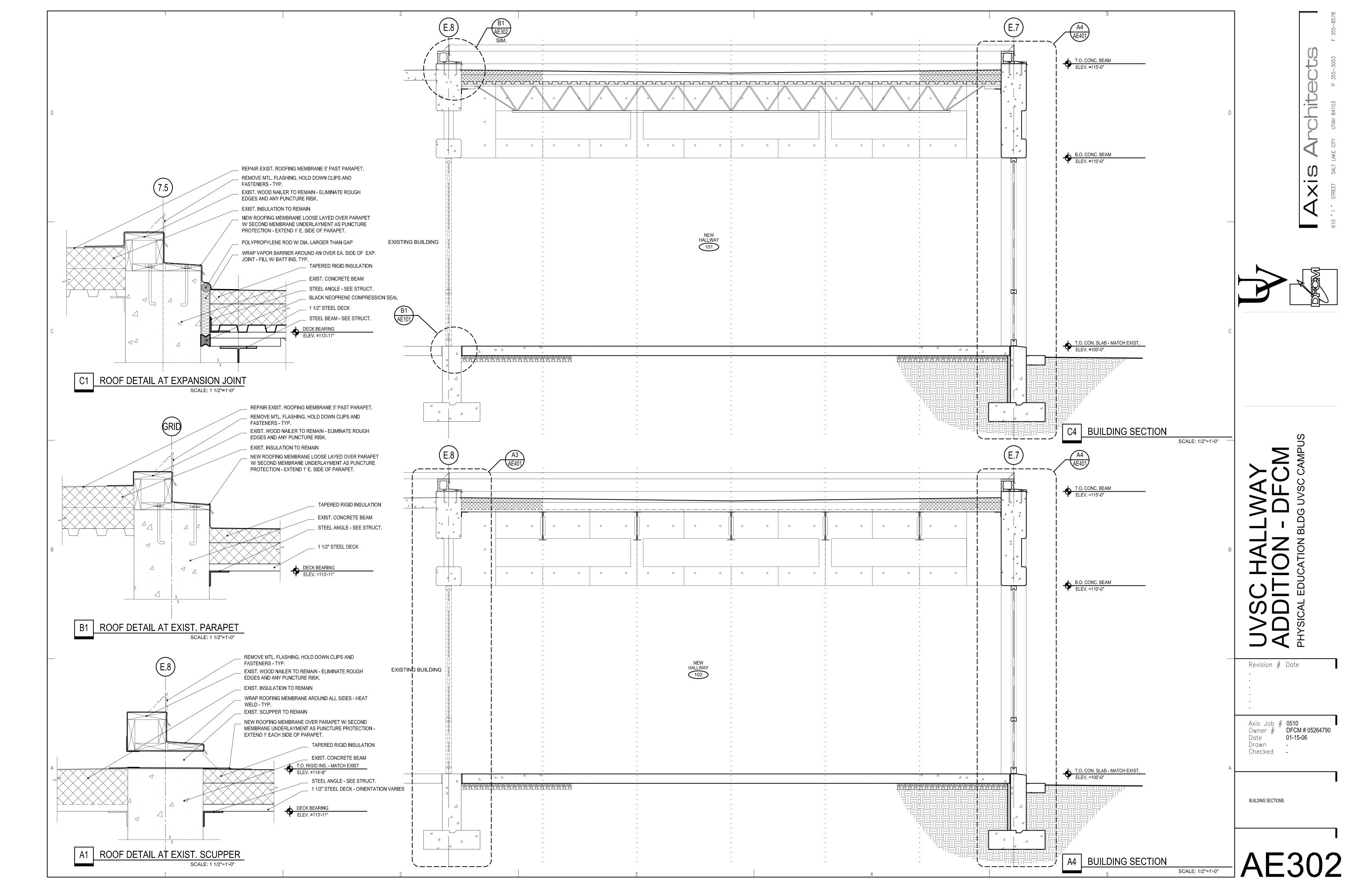


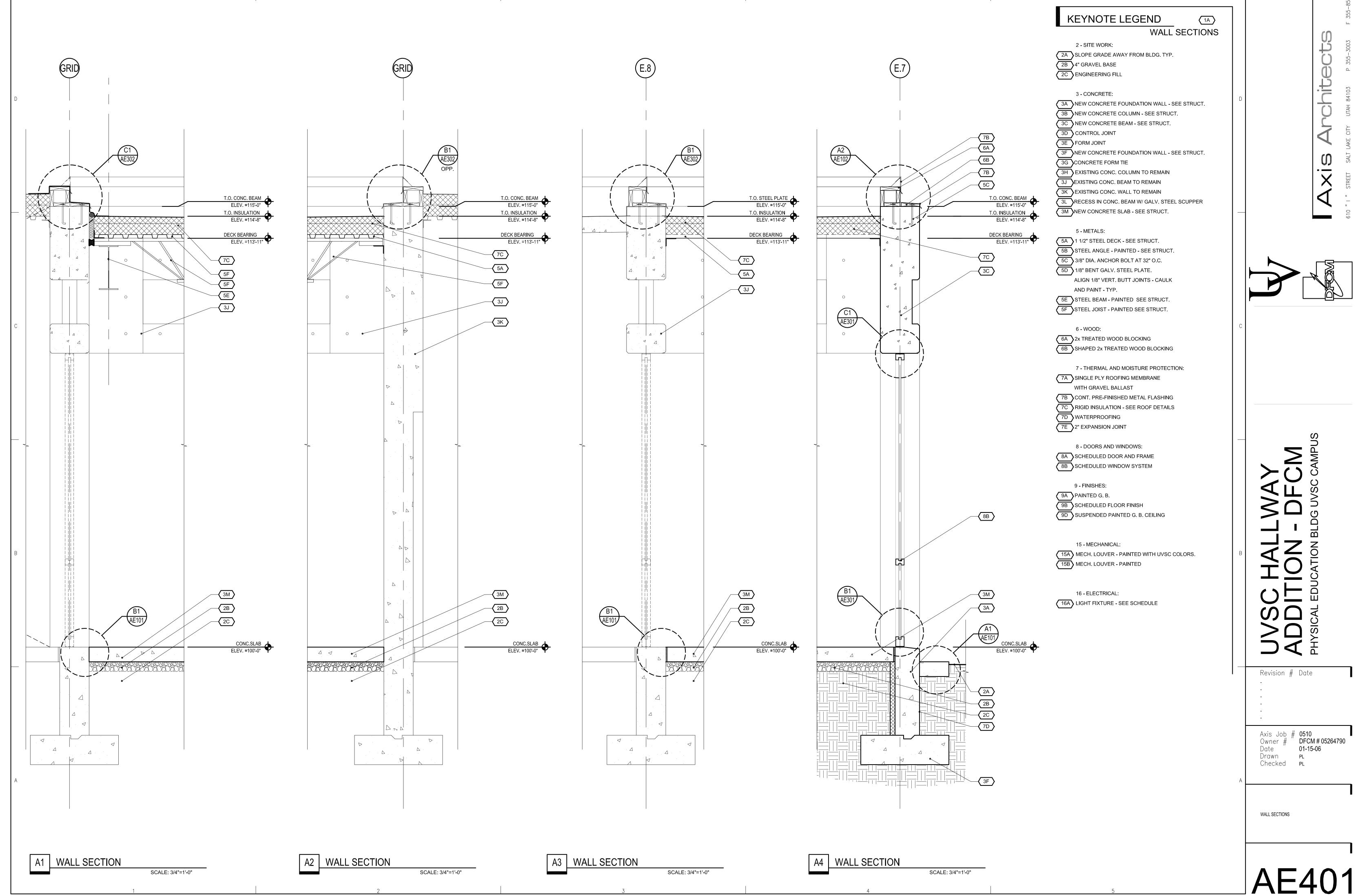












Seismic Use Group.. II, IE = 1.0SDS = .8. SD1 = .484.Site Class = D D. Lateral Force Resisting System = Dual System Special Concrete Moment Frame and Concrete Shear Wall Base shear = .1W R = 8Analysis procedure = Equivalent Lateral—Force Procedure Seismic design category = D

Ct= 1.0

B4. Wind velocity.......90 miles per hour (3 second gust speed) exposure C. Net uplift force at roof equals 17 psf. Importance Factor Iw.....1.15

A. Soil Bearing Pressure.....3000 psf as per original construction document November 1993.

II. Site Work

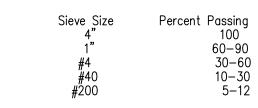
SW1. A minimum of 12" of topsoil shall be removed from the entire building site including all vegetation and debris.

SW2. The Contractor shall retain a Soils Engineer to verify 3000 psf soil pressure prior to placing any footing forms. Report to Architect any findings which may affect foundation and

SW3. All bearing earth to be undisturbed earth or compacted fill. The area on which the fill is placed must be frost free. The fill shall then be placed in layers not to exceed 8 inches in depth and compacted.

SW4. All fill and back fill shall be compacted to a minimum of 95% of maximum relative density for footings and 90% for all other structural fill based on AASHTO T180.

SW5. Any fill to be placed under the building and footings shall be a well graded granular material within the limits of the following gradation, unless otherwise specified by Soils



SW6. All water shall be removed from foundation excavation prior to placing of concrete. Do not pour concrete under water.

SW7. Any unusual soil conditions (water, clay, soft layers, etc.) encountered during excavation for footings shall be immediately brought to the attention of the architect and soils engineer.

SW8. All foundation excavations shall be protected from all detrimental changes in environmental conditions such as rain

SW9. Contractor shall coordinate the architectural, structural, and civil drawings for top of footing elevations and footing steps and excavations.

SW10. Contractor shall verify all existing and future grades. Footings shall be poured to maintain the minimum frost protection or confinement indicated on details. Footing steps shall be provided as per typical details where required by site conditions.

SW11. See geotechnical report for subgrade preparation typical.

III. Concrete and Reinforcing

C1. All work and materials shall comply with all areas of ACI318 and ACI 347 Publications and applicable ASTM Publications.

C2. Compressive strength of concrete at 28 days shall be as follows: (only 1-grade of concrete shall be poured on the job at one time). Use type II cement in contact with ground.

	Minimum				
	Compressive	%	Maximum)	Specia
	Strength(psi)	Slump	Air	AggregateIn	spection
	(At 28 Days)	(+/-1/2")	Entrainmen	t Size	Required
Footings	3000	4	NO	1 1/2"	NO
Foundations	4000	4	NO	3/4"	NO
Int.Slab on Gro	ade 4000	3	NO	1 1/2"	NO
Ext.Slab on Gr	ade 4000	3 5 1	/2% to 7 1,	/2%1 1/2"	NO
Other	4000	4	NO	3/4"	YES

C3. Hardrock aggregates shall conform to ASTM C-33. Their Maximum size shall be 3/4" except 1-1/2" shall be used for footings and slabs on grade.

C4. Admixtures

A. Concrete mix shall include flyash as per ASTM C618 class " except that maximum loss on ignition shall be limited to 1% to yield specified quantities. Flyash replacement of cement shall be limited to 20% by weight.

C5. The contractor shall submit mix design and 3, 7, and 28 days strength tests for review by the structural engineer before any concrete is poured at the job site.

C6. All concrete that is placed by pumping shall be medium range plasticized with water reducing admixture which shall comply with specifications for chemical admixtures for concrete, ASTM designation C-494 non-chloride and shall be used in strict accordance with manufacturer's recommendations. Product specification publication shall be submitted to structural engineer for review.

C7. Unless otherwise noted all reinforcement bars shall be securely anchored to the forms and spaced from them as follows: Minimum Coverage A. Cast against & exposed to earth......3 inches

B. Concrete exposed to earth or weather: #6 though #18 bars.....2 inches #5 bar and smaller...... 1/2 inches C. Not exposed to weather or in contact with ground: slabs, walls, joists:.....3/4 inches

C8. Reinforcing Steel A. All reinforcing steel shall be bent, detailed and chaired as per the "ACI Manual of Standard Practice for Detailing Reinforcing Concrete Structures.

B. All reinforcing steel to be welded shall comply with ASTM C. All reinforcing steel shall be of new stock deformed bars conforming to ASTM A-615 grade 60 unless otherwise noted.

Placement of bars in accordance with ACI 315 and ACI 318.

Use bar supports per ACI 315 chapter 7 for all rebar and

welded wire fabric. As per ACI 318. Section 7.5.1: "All reinforcement shall be accurately placed and adequately supported before concrete is placed and shall be secured against displacement within tolleranced permitted in 7.5.2." Wet stabbing reinforcing is not allowed. Unless otherwise indicated, all anchors welded to steel plates or angles that are embedded in masonry or concrete shall be deformed bar anchors conforming to A36 Steel or

ASTM A706. Minimum lap lengths shall be, unless noted otherwise on drawings: #3=18" #4=19" #5=24" #6=29" #7=42" #8=48" #9=54" #10=58" #11=65". Epoxy coated bar laps, see note M. Leightweight concrete bar laps, multiply above values by

See shear wall schedule for seismic lap lengths. All vertical reinforcing bars (unless noted otherwise) shall be doweled to footing with 90 degree standard hook. Reinforcing for concrete walls as follows: (unless otherwise noted on drawings)

01 11100 110	tod on drawings)	
ckness 6" 8" 10"	Horizontal Reinf #4 at 16" o.c. #4 at 12" o.c. #4 at 15" o.c.	Vertical Reinf #4 at 18" o. #4 at 18" o. #4 at 18" o.
10	each face	each fac
12"	#4 at 10" o.c.	#4 at 16" o.d
	each face	each fac

All dowels shall have at least 38 bar diameter embedment. Break out dowels may be used where required by contractor, however dowels shall be Grade 40 and spacing of dowels shall be decreased by 1/3. Provide corner bars at all intersecting corners. Use same

size bar and spacing as horizontal wall reinforcing. Add 2-#5 bars around all openings (unless otherwise noted) and extend 24" beyond corner of openings. Add also 2-#5 x 4'-0 diagonally at corners. For reinforcing over opening see opening details on drawings.

K. When called for on the drawings or when directed by engineer bars that are to be epoxy doweled are to be put in holes larger than the bar diameter (1/4" larger for rebar and 1/8" larger for threaded bars). The holes shall be ten bar diameters deep for 4000 psi concrete or above and 15 bar diameters for concrete below 4000 psi and masonry. Fill holes with "Sika-Dur 31" Hi-Mod epoxy gel (or equal as approved by engineer) All epoxy dowels and epoxy anchors are to be either threaded or deformed bars as per drawings. Apply epoxy as per manufacturer's recommendations. Mixing shall be done using a power mixer. For cold weather application gel shall be mixed at 70 degrees and kept at 40 degrees for 72 hours after application. Impact type drilling tools shall not be used for drilling holes or tightening anchors and shear bolt nuts into or through brick. Top rebar in slabs and beams including top 6" of ties and column bars exposed to weather are to be epoxy coated after fabrication as per ASTM A 775-81 "Standard Specifications for Epoxy-coated Rebar." Splice length of epoxy-coated top bars shall be 1.7 times the length in Note E. Splice length for all other epoxy coated bars shall 1.5 times Note E.

M. Beam Rebars shall be spliced as follows, unless noted otherwise: Top bars at midspan.

b. Bottom bars at support.

C9. Concrete tests shall be made by testing laboratory approved by the architect, with copies of all reports being mailed to the architect and the contractor. In general, one test shall be made for each 50 cubic yards of concrete, or each days' pour if less than 50 yards, or as directed by Architect. Each test shall consist of 5 cylinders of which one shall be tested at 7 days, 2 tested at 28 days, and two retained in reserve for later tests, if required. Specimens shall be made and tested in accordance with ASTM C-172, C-31 and C-39 standards. Slump and Air entrainment test shall also be made with each set of cylinders taken. Contractor shall provide the cylinders. The testing laboratory shall transport all cylinders. The owner shall pay for all tests.

C10. Before concrete is poured, check with all trades to insure proper placement of all openings, sleeves, curbs, conduits, bolts, inserts, etc. relating to work.

C11. Drypack concrete shall be one part Portland cement and one part sand with sufficient water to allow a small amount of paste to come to the surface. Use for grouting joists and beam pockets unless otherwise noted.

C12. Under steel column base plates, concrete grout shall be non-shrink with sufficient water to allow pouring. Ultimate compressive strength (F'C) at 28 days shall = 4,000 psi. Grout shall be non-metallic, meeting CRD-C621 and in accordance with the manufacturer's published specification for mixing and placing.

C13. Formwork not supporting weight of concrete, such as sides of beams, walls, columns, and similar parts of the work, may be removed after cumulatively curing at not less than 50 degrees for 24 hours after placing concrete, provided concrete is sufficiently hard to not be damaged by form removal operations, and provided curing and protection operations are maintained. Formwork supporting weight of concrete, such as beam soffits, joints, slabs and other structural elements, may not be removed in less than 14 days or until concrete has attained 75% of its design minimum compressive strength at 28 days. Support formwork from facing materials with structural members spaced sufficiently close to prevent deflection. Fit forms placed in successive units for continuous surfaces to be accurately aligned free from irregularities and within allowable tolerances. Provide 1/16" camber per every 2.5 feet in concrete formwork of exposed to view concrete unless otherwise indicated by Architect/Engineer.

C14. Provide a continuous 2" x 4" key in all wall footings. Unless noted otherwise on drawings.

C15. All exposed to view concrete shall be stoned smooth while green, or as directed by Architect. No grout plaster shall be Exposed to view concrete shall have 3/4" deep "V" groove

placed vertically at 8'-0" o.c. or as directed by Architect. C16. Protect freshly placed concrete from premature drying and excessive cold or hot temperature as per ACI 318 and maintain without drying at a relatively constant temperature for a period of time necessary for hydration of cement and proper hardenina.

C17. Cold weather curing and protection requirements for concrete shall conform to the requirements of IBC Section 1905 when depositing concrete at freezing temperature or below, the concrete mix shall have a temperature of at least 50 degrees but not more than 80 degrees. The concrete shall be maintained at a temperature of not less than 50 degrees and in a moist condition for not less than 7 days after placing or as directed by the structural engineer. The use of chemicals or additives to prevent freezing will not be permitted. Contractor shall prevent frost from penetrating under footings or interior slabs on grade or postpone concrete pour. Refer also to specifications and to any directive by structural engineer for additional cold weather requirements.

C18. Architect/Engineer shall be notified 48 hours prior to pouring any concrete in order to observe reinforcing

C19. All concrete shall be properly vibrated in place using

internal vibrating rods.

C20. Unless otherwise noted all concrete slabs apply a liquid type membrane forming curing compound complying with ASTM C 309, type 1, class A Moisture loss shall be not more than 0.055 gr./sg. cm. applied at 200 sg.ft./gal. When temperature is 75 degrees or more during placement do not use membrane but moist cure slab for 7 days continuous minimum or see ACI Committee 305 Report "Hot Weather Concreting". Submit method of curing for approval.

V. Structural Steel

S1. All structural steel work shall comply with the latest edition of the AISC "Standard Specifications for the Design, Fabrication and Erection of Structural Steel for Buildings and "Code of Standard Practice". ASTM A-992 FY=50 ksi minimum specified for structural shapes, A36 steel for miscellaneous steel, and ASTM A-500 grade B for structural tubes, typical U.N.O. Cambering shall meet the standard mill practice shown on AISC "Manual of Steel Construction"

S2. Shop paint and remove all rust, oils, mill scale. Apply one coat zinc chromate 2 dry mills thick. Provide touch up field coat at all abraded and welded areas, two dry mills thick. All steel exposed to moisture conditions shall be galvanized. (Follow SSPC - Paint 20; ASTM A 780)

S3. Unless noted otherwise, all structural steel to steel bolted connections shall use 3/4" diameter high strength bolts conforming to ASTM A-325 (N) and shall have carbonized washers under the turning unit. All other bolts shall conform to ASTM A-307. A-325 bolts are to tightened by either turn of the nut method or load indicator washers. All A-325 bolt tightening shall be supervised by an independent testing agency who shall certify in writing that all bolts are properly tightened.

S4. Unless noted otherwise on plans, all steel beams shall have L/480 positive camber for 25 feet or greater spans.

A. \tilde{A} II welding to be made by certified welders using E-70series electrodes. (For all welding of ASTM A-572 steel, E70X8 electrodes shall be used and welding shall be as

per AWS D1.1 "Structural Welding Code". B. All welders to be currently certified for all type of welds on this project under latest AWS D1.1, Structural Welding Code. Welders to have passed the Qualification

Requirements within preceding 6 month period. C. Welds made against concrete are to be done under the supervision of an approved testing agency and that fillet welds should be made in 1/8" passes 2" long at 4" o.c D. All steel to steel connections not shown bolted which is

continuous, shall be welded to develop full strength capacity of connecting members. E. Minimum size of fillet weld (unless noted otherwise on

Material thickness of Minimum size of of fillet weld thicker part joined

to 1/4" inclusive 1/8" all around over 1/4" to 1/2" 3/16" all around 1/4" all around over 3/4" to 1/2" 5/16" all around

F. Unless otherwise noted, all structural steel to steel connections shall be made in such a manner to develop full shear capacity of connecting members as per AISC specifications.

G. Field paint all abraded and welded surfaces for joists and metal deck. Use SSPC — Paint 20 (Galvanic). H. Unless otherwise indicated, all anchors welded to steel

plates or angles that are embedded in masonry or concrete shall be deformed bar anchors conforming to A36 Steel or ASTM A706.

I. All deck bearing angles or plates shall have full penetration welds at splices and corners typical unless noted otherwise. J. All full penetration welds shall be tested by x-ray or ultrasonic procedures by an independent testing agency approved by the architect. Where testing procedures are not physically possible, visual inspection before and during welding shall be done by an independent testing

K. 10% of all shop and field welds shall be done under the direct supervision of an independent testing agency approved by the architect and tested by magnetic particle L. Copies of all tests results are to be sent to structural engineer. Welds found to be defective shall be corrected

at no extra cost to the owner. M. All weld testing shall be paid for by the owner.

A. All metal deck shall meet requirements of Steel Deck Institute (SDI) for wide rib deck. See drawings for type of deck. Manufacture shall be a member of SDI. B. Deck manufacturer shall have ICBO certification showing lateral shear capacities of deck equalling 1300 plf and

with F (Flexibility Factor) less than 10. C. Provide 18 gage sheet metal reinforcing at all openings through metal deck. For openings 15" and larger frame opening with angle $3 \times 3 \times 1/4$ " unless otherwise noted. End laps to occur at supports and shall have minimum lap of 2". The deck shall be attached to all supports and the

side lap of adjacent units. D. All deck splices shall occur over supporting members and shall have a minimum of 4" of flat bearing surface

E. Deck Welding (unless otherwise noted):

Supports parallel to deck 3/4" diameter puddle welds at 12" o.c. b. Supports perpendicular to deck 3/4" diameter at

each valley. Top seam welds 1 1/2" at 12" o.c. Deck shall be crimped prior to all side or top seam welding. For composite floor deck, side lap use 1/4" diameter

button punch at 24" o.c.. Welder shall be certified as a light gage welder in accordance with AWS. e. Use E60 electrodes.

a,b, and c are minimum deck welding, deck supplier is to indicate deck welds on shop drawings to develop stated

shear capacities. F. Unless noted otherwise on drawings all deck shall bear on and be welded to continuous angle $3 \times 3 \times 1/4 \times cont.$ at all deck boundaries fastened to concrete or masonry wall with weld plates as per typical details or 3/4" diameter x 8" x 3" J-bolts at 16" o.c. Provide angle 3 1/2 x 2 $1/2 \times 3/16$ under all changes in deck direction.

G. All continuous deck bearing angles shall have full penetration welds at splices and corners. H. Architect/Engineer shall be notified 48 hours prior to application of roofing material in order to observe deck attachment. I. Roof deck and joists and girders shall be designed for 17

psf uplift force minimum, U.N.O.

S7. Steel Joists A. All open web steel joists, VS joist substitutes, loose outrigger and bridging shall be fabricated according to the specifications of the "Steel Joist Institute" (SJI) and the manufacturers shall be members of SJI joists, outriggers and VS members shall be anchored at their supports by welding unless otherwise noted. VS joist substitutes are Vulcraft "VS" series or equal. All K series joists shall bear 4 inches minimum and LH series joists and open web and girders shall bear 6 inches

minimum on steel bearing angles or plates. Joist and girder supplier shall submit shop drawings showing truss ioist geometry and member sizes. Joist supplier shall submit design calculations for all joists with snow drift loading, point loads, or any non-standard loading

B. Joist bearing sloping 1/4" per foot or more provide beveled steel shims welded to joist and support. C. All joist cross bridging shall be welded at each joist

and at cross over points. D. Where steel joist are exposed, use X bridging only. Coordinate bridging location with Architect. Do not run bridging through skylights, etc., unless otherwise

E. Live Load deflection shall be limited to L over 360 unless otherwise noted.

F. Structural calculations shall be provided with a Utah P.E. stamp.

S8. Steel Studs A. Structural steel studs shall be as specified in this note and shown on drawings with minimum effective properties.

> Stud Size Gross Area (In.2) IXX (in.4) 6"x 1 5/8 6"x 1 5′/8 2.76 4"x 1 5/8 1.06 3 5/8 x 1 5/8 16

B. All studs shall be spaced at 16" o.c. unless noted otherwise and to be standard painted unless otherwise

Fy for 16 ga. and heavier material..50 Ksi Fy for 18 ga. and lighter material..33 Ksi C. Unless otherwise noted all bridging to be 1 1/2" minimum x 18 ga. x continuous cold rolled channels positioned through stud punch—outs and weld attached on both sides to stud punch—out. Bridging shall be spaced at 4'-6" o.c. to match punch—outs. Where punch—outs do not line up use weld attached bridge clip angles.

D. All track to be stud size by 1 1/2" flange by 16 gage standard painted unless noted otherwise. Attach track to concrete slab at 16" o.c. using .177" diameter x 1 1/2" powder driven fasteners. Tracks and bridging to have Fy = 33,000 psi.

All splices of structural studs to be full strength. Use 2'-0" minimum section lapped 1'-0" above and below splice fully welded. Alternate all splices 24" minimum. Spot paint all welds after cleaning. Load bearing stud walls must be fabricated with the stud

ends seated against the track web. Full web and flange bearing must be provided. G. All structural studs shall be welded to top and bottom tracks with 1/8" x 1 1/2" fillet at each stud flange and

S9. Steel columns and beams that are located inside concrete or masonry walls or that are in contact with the walls shall have deformed bar anchors (KSM or Nelson) welded to the steel members at the shop. The deformed bar anchors (abbreviated DBA) shall match the size and location of the horizontal or vertical wall rebar that is interrupted by the steel members and shall be of such length to lap 38 bar diameters with the concrete wall reinforcing and 48 bar diameter with the

1/8" x 3" at stud web.

masonry wall reinforcing.

VII. General Conditions

G1. If discrepancies exist between specifications, general notes and drawings use the more expensive option.

G2. All dimensions on structural drawings shall be checked and verified against architectural drawings. All dimensions relating to existing site, buildings, installations or construction shall be field verified, all discrepancies shall be submitted to the architect. Do not proceed with fabrication and erection of materials affected until discrepancies are resolved.

G3. All omissions or discrepancies in the working drawings and or specifications shall be brought to the attention of the Architect and/or Structural Engineer before proceeding with any work involved.

G4. Shoring A. Until all permanent members, including walls, slabs, floors and roof are in place and all connections are completed, stability of structure and all parts thereof shall be contractor's responsibility. During construction contractor shall keep construction loads within the design load limits shown on drawings. After construction is completed building owner shall keep loads on roof and floor within design limits shown on drawings.

B. Do not backfill walls until floor at top of wall is in place or adequate temporary bracing is provided. Contractor shall provide shoring design calculations and drawings stamped by a Utah Registered Professional

G5. All Construction shall be in accordance with the IBC 2003 and supplements unless higher standard is called for.

G6. Unless a more stringent requirement is specified, design all members with minimum Live Load deflection of L/360.

G7. Contractor shall be responsible for safety and protection in and around job site and or adjacent properties.

G8. Observation visits to the site by Bsumek Mu and Associates Field Representative shall neither be construed as inspection nor approval of construction.

G9. Contractor shall provide 5 sets of shop drawings for review

by structural engineer for: all reinforcing bars, structural

steel. alu—lam beams, wood joist and all prefab. structural

items including structural calculations. G10. All openings through floors and walls shall be verified with architectural, mechanical and electrical drawings. Do not cut openings in concrete or masonry without approval of

structural engineer and architect. G11. Contractor/Window/Door — Supplier shall provide 1/2" minimum vertical movement capability in frame system. Window/Door- Supplier shall design for wind load specified under "Basis for Design" and shall submit professional engineer stamped design calculations showing compliance with Wind Load Capacity and vertical movement capacity.

G12. Seismic bracing of electrical, mechanical equipment, and ceiling system shall be designed by their respective supplier and stamped by a Utah Professional Engineer and submitted for design review.

G13. The appearance of all exposed structural elements shall be approved by architect or owner. All blemishes, dents, or shipping damage in structural elements that are exposed to view shall be repaired before erection and shall be approved by the architect. All sweeps in beams joists, and girders greater than 1/2" shall be corrected. Repairs shall be made at no cost to the owner. For tolerances in wide flange shapes, follow AISC specifications.

VIII. Special Inspections

Special inspections shall be done by Special Inspectors that are qualified and approved for each area of work stated below or as required by the Building Official. All special inspections shall be paid for by the OWNER. The special inspector shall observe the work assigned for conformance with the approved design drawings and specifications. The special inspector shall submit reports to the owner, the Building Official, the Contractor, Architect, and Bsumek Mu and Associates. The special inspectors shall conform to and fulfill all other responsibilities as outlined in section 1704 of the IBC 2003. The special inspector shall submit written reports of observations stating time, date, location of work and observation of work being done.

A. See note C2 for concrete above 2500 psi not requireing special inspections. Some higher strength concrete is specified for durability only.

B. Special inspections are required for the following work: Concrete and reinforcing placement. Except for the

following conditions: a. For foundations satisfying requirement of IBC

2003, Table 1805.4.2.

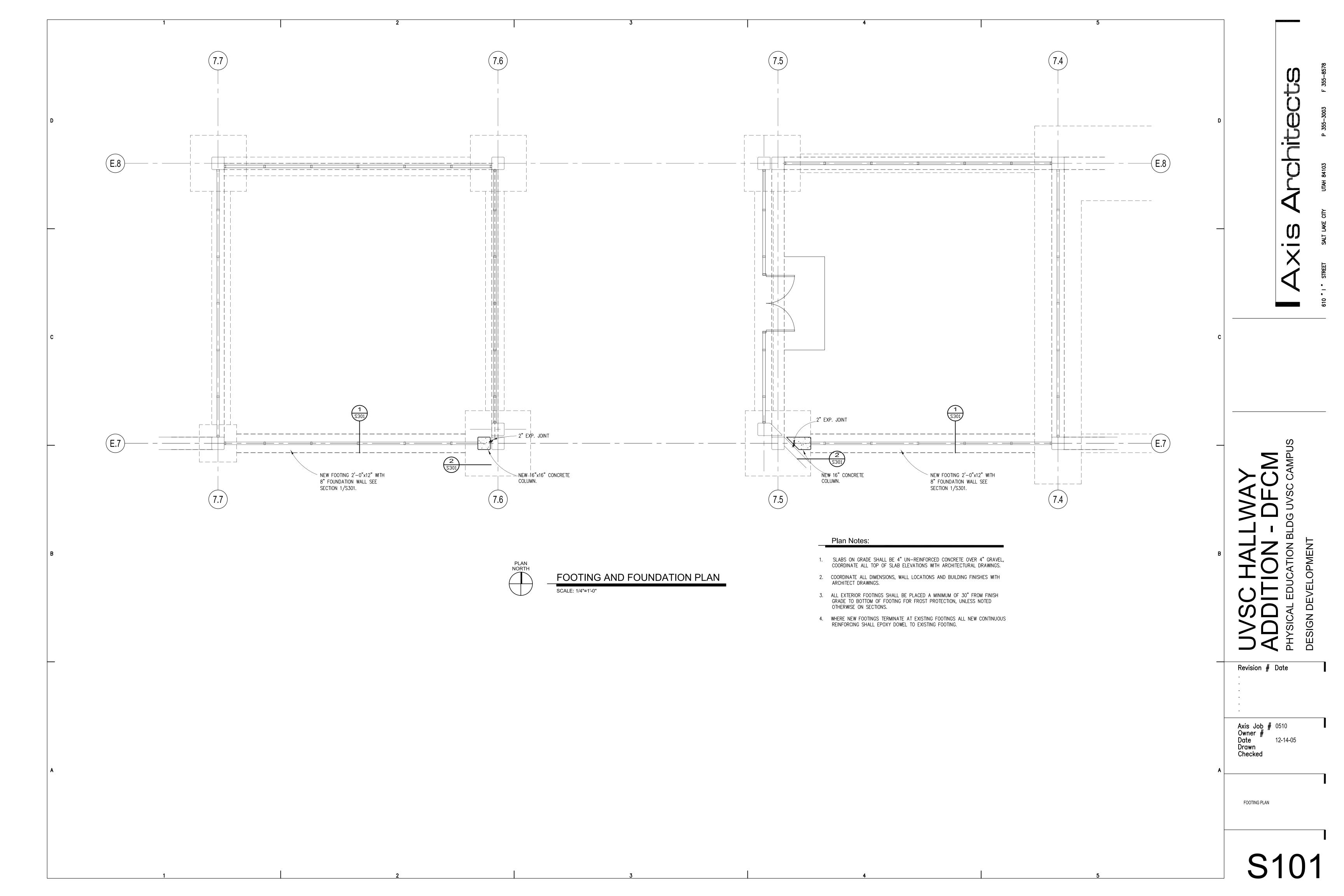
b. Non-Structural slab on grade. c. Site work concrete where no special hazards exist.

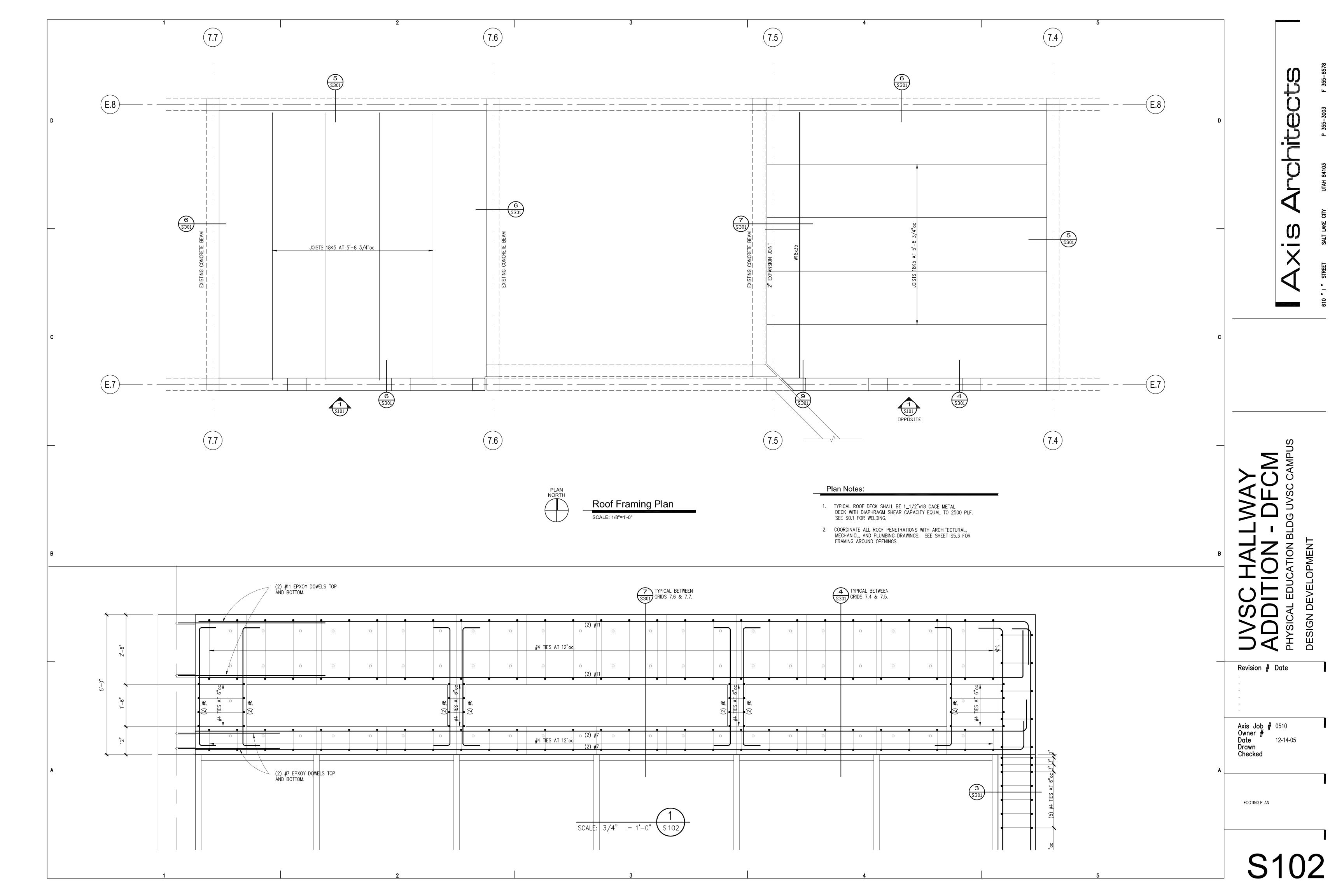
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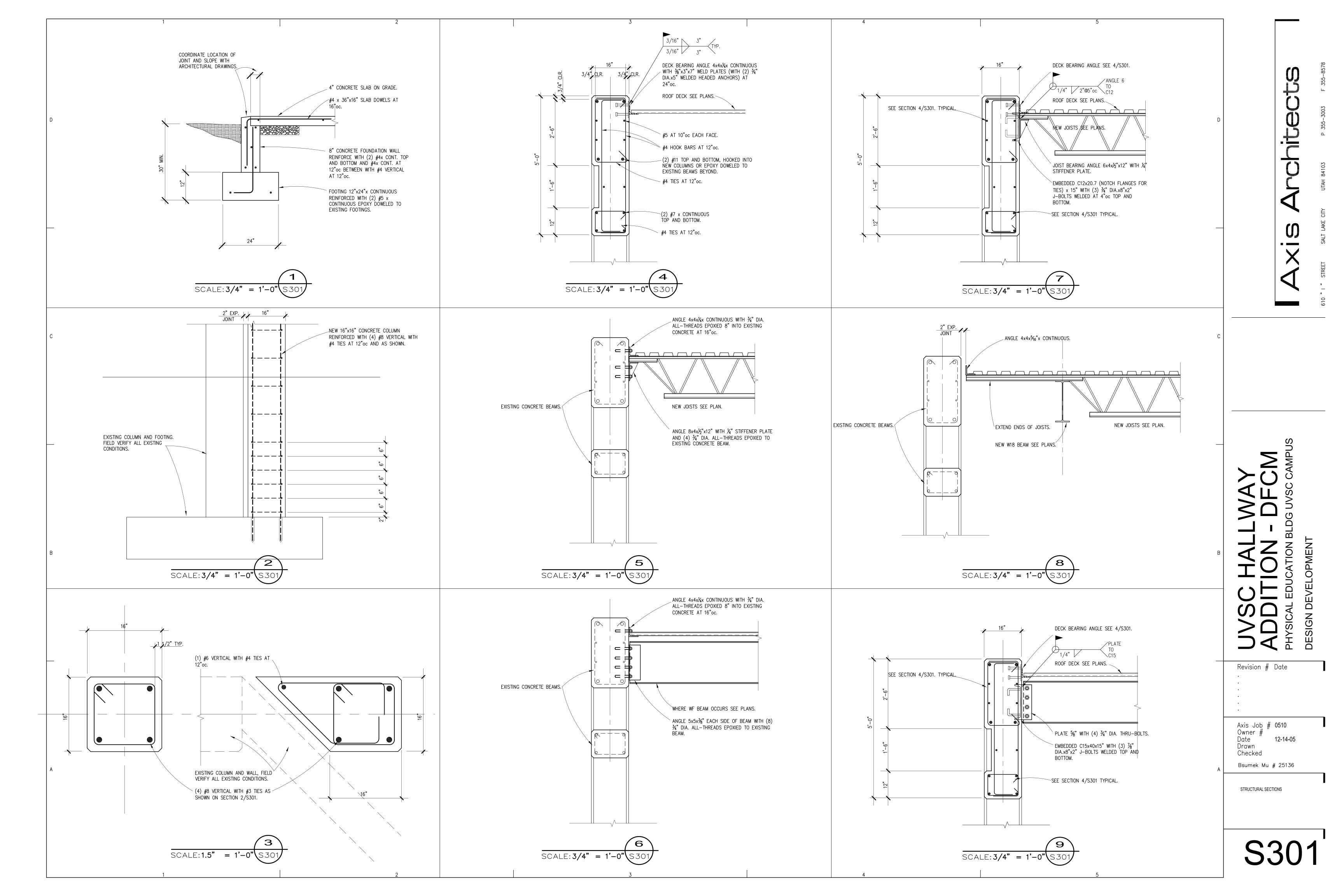
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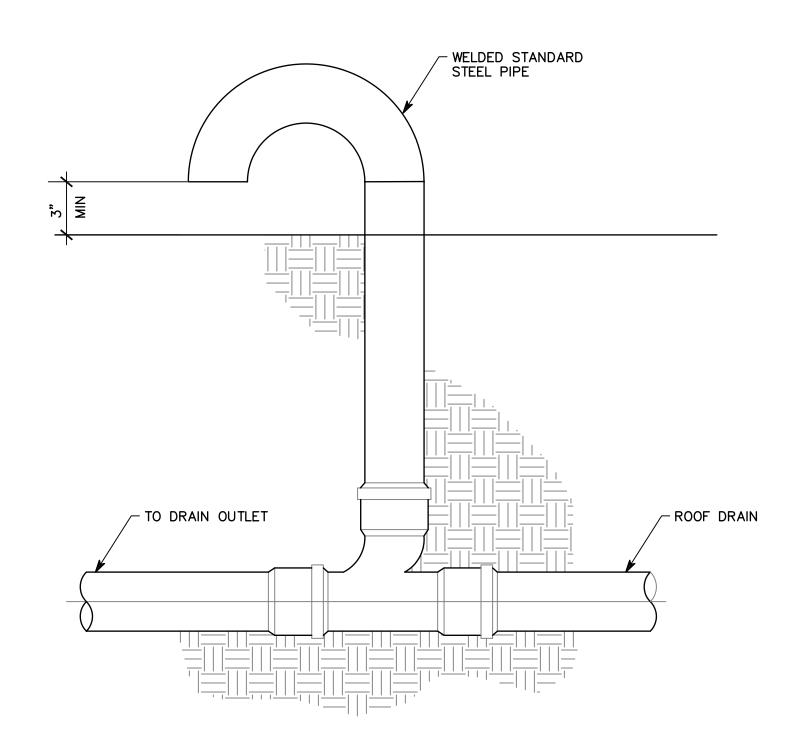
GENERAL NOTES

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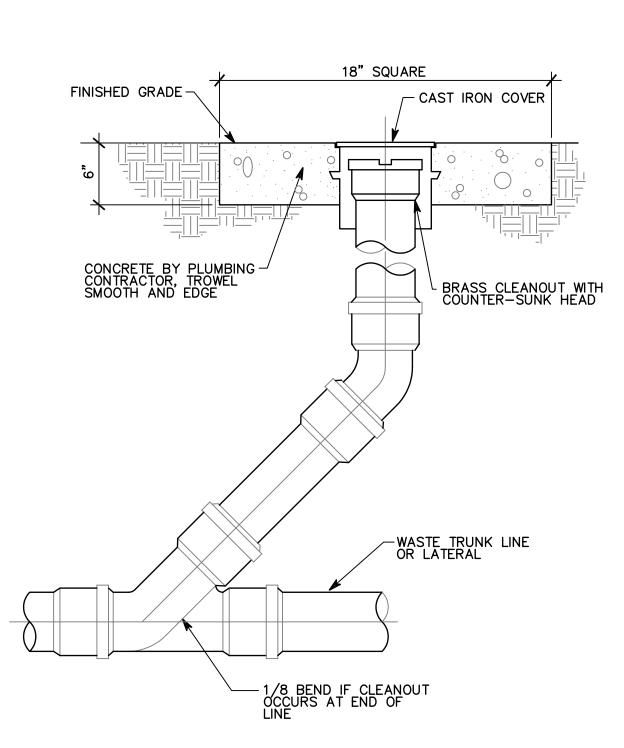


7	GOOSENECK	DETAIL
	SCALE: NOT TO SCALE	

B Ķ

OVERFLOW DRAIN LINE DETAIL





CLEANOUT TO GRADE DETAIL

GENERAL MECHANICAL NOTES DO NOT ROUTE DUCTS AND PIPES ABOVE ELECTRICAL PANELS. ALL ELECTRICAL PANELS MUST HAVE CLEAR ACCESS SPACE IN FRONT OF PANEL 4'-0" DEEP AND 6'-6" HIGH. DO NOT ROUTE DUCTS AND PIPES IN ELECTRICAL ROOMS, EXCEPT DUCTS AND PIPES SERVING THE ROOM. DESCRIPTION

SYMBOL LEGEND

RECTANGULAR SUPPLY

RECTANGULAR SUPPLY

RECTANGULAR RETURN

RECTANGULAR RETURN

DUCT UP

DUCT DOWN

DUCT UP

DUCT DOWN

RECTANGULAR

RECTANGULAR

ROUND DUCT UP

ROUND DUCT DOWN

ACCOUSTICALLY LINED

RECTANGULAR DUCT

90° RECTANGULAR

90° RADIUS ELBOW

DUCT SIZE OR SHAPE

OPPOSED BLADE

EXISTING DUCT

SYMBOL LEGEND

SOIL, WASTE - ABOVE GRADE

SOIL, WASTE - BELOW GRADE

RAINWATER - ABOVE GRADE

RAINWATER - BELOW GRADE

EXISTING PIPE TO BE REMOVED

OVERFLOW RAINWATER

OVERFLOW RAINWATER BELOW GRADE

ABOVE GRADE

STORM DRAIN

EXISTING PIPE

DESCRIPTION

SYMBOL

PLUMBING PIPING

BALANDING DAMPER

(O.B.D.) IN RECT DUCT

DUCT TO BE REMOVED

TRANSITION

VANES

ELBOW WITH TURNING

EXHAUST DUCT UP

EXHAUST DUCT DOWN

DESCRIPTION

DOUBLE LINE

SYMBOL

DUCTWORK

SINGLE LINE

2. ALL DUCT DIMENSIONS ARE INSIDE FREE AREA DIMENSIONS. ADJUST SHEET METAL DIMENSION FOR LINED DUCT.

3. IF CONTRACTOR ENCOUNTERS MATERIAL WHICH MAY CONTAIN ASBESTOS IMMEDIATELY STOP WORK IN THIS AREA AND NOTIFY THE

4. PROVIDE CEILING ACCESS PANELS AS REQUIRED WHERE MECHANICAL EQUIPMENT, VALVES, VAV BOXES, FIRE DAM- PERS, ETC. ARE LOCATED ABOVE INACCESSIBLE CEILINGS.

5. ALL DUCT AND FLUE PENETRATIONS THRU 1 HOUR ROOF ASSEMBLY TO BE ENCLOSED WITH 2 SHEET ROCK LAYERS FROM SHEET ROCK AT BOTTOM OF ROOF TRUSSES TO ROOF DECK.

6. STEEL ROOF DECK SHALL NOT BE USED TO SUPPORT LOADS FROM PIPING, DUCTWORK OR EQUIPMENT, UNLESS NOTED OTHERWISE. HANGER LOADS LESS THAN 50 LBS. MAY BE HUNG FROM THE STEEL ROOF DECK IN CASES WHEN HANGING FROM THE STEEL ROOF DECK CANNOT BE AVOIDED; THE ATTACHMENT METHOD MUST DISTRIBUTE THE LOAD ACCROSS THE DECK AS APPROVED BY THE STRUCTURAL

MECHANICAL SHEET INDEX SHEET NO SHEET TITLE ME001 MECHANICAL SYMBOLS LEGEND AND SHEET INDEX MD101 MECHANICAL DEMOLITION FLOOR PLAN MECHANICAL FLOOR PLAN MH101

SYN	MBOL LEGEND
SYMBOL	DESCRIPTION
REFERENCE AND	LINE SYMBOLS
# SHEET	DETAIL INDICATOR: # INDICATES DETAIL NUMBER, SHEET INDICATES DRAWING SHEET WHERE DETAIL IS SHOWN.
# SHEET	ELEVATION OR SECTION INDICATOR, EXTERIOR: # INDICATES ELEVATION OR SECTION NUMBER, SHEET INDICATES DRAWING SHEET WHERE ELEVATION OR SECTION IS SHOWN.
# SHEET	ELEVATION OR SECTION INDICATOR, INTERIOR: # INDICATES ELEVATION OR SECTION NUMBER, SHEET INDICATES DRAWING SHEET WHERE ELEVATION OR SECTION IS SHOWN.
100	ROOM OR SPACE NUMBER.
1	KEYNOTE INDICATOR.
\triangle	REVISION INDICATOR.
⟨CU−1⟩	EQUIPMENT INDICATOR.
P-	PLUMBING FIXTURE INDICATOR.
TYPE CFM SIZE	DIFFUSER/GRILLE INDICATOR.
TYPE SIZE	DIFFUSER/GRILLE INDICATOR.
 \/-	BREAK, STRAIGHT
5	BREAK, ROUND.
MATCH LINE SEE XX/X-XXX	MATCH LINE INDICATOR
	HIDDEN FEATURES LINE: HIDDEN, THIN LINE.
	CONTRACT LIMIT LINE: DASHDOT, WIDE LINE.
	NEW CONNECTION POINT TO

Revision # Date

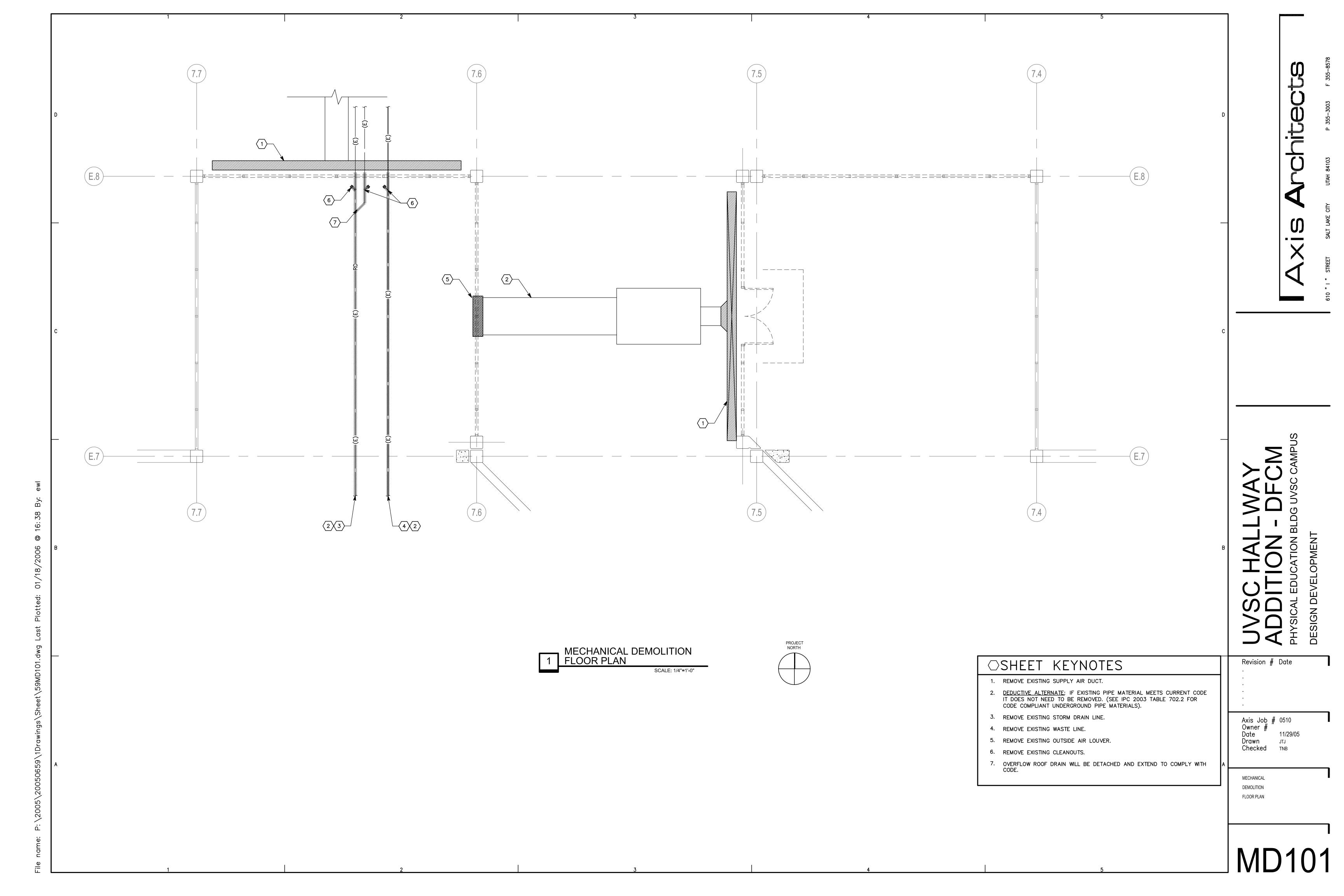
Axis Job # 0510 Owner # Drawn

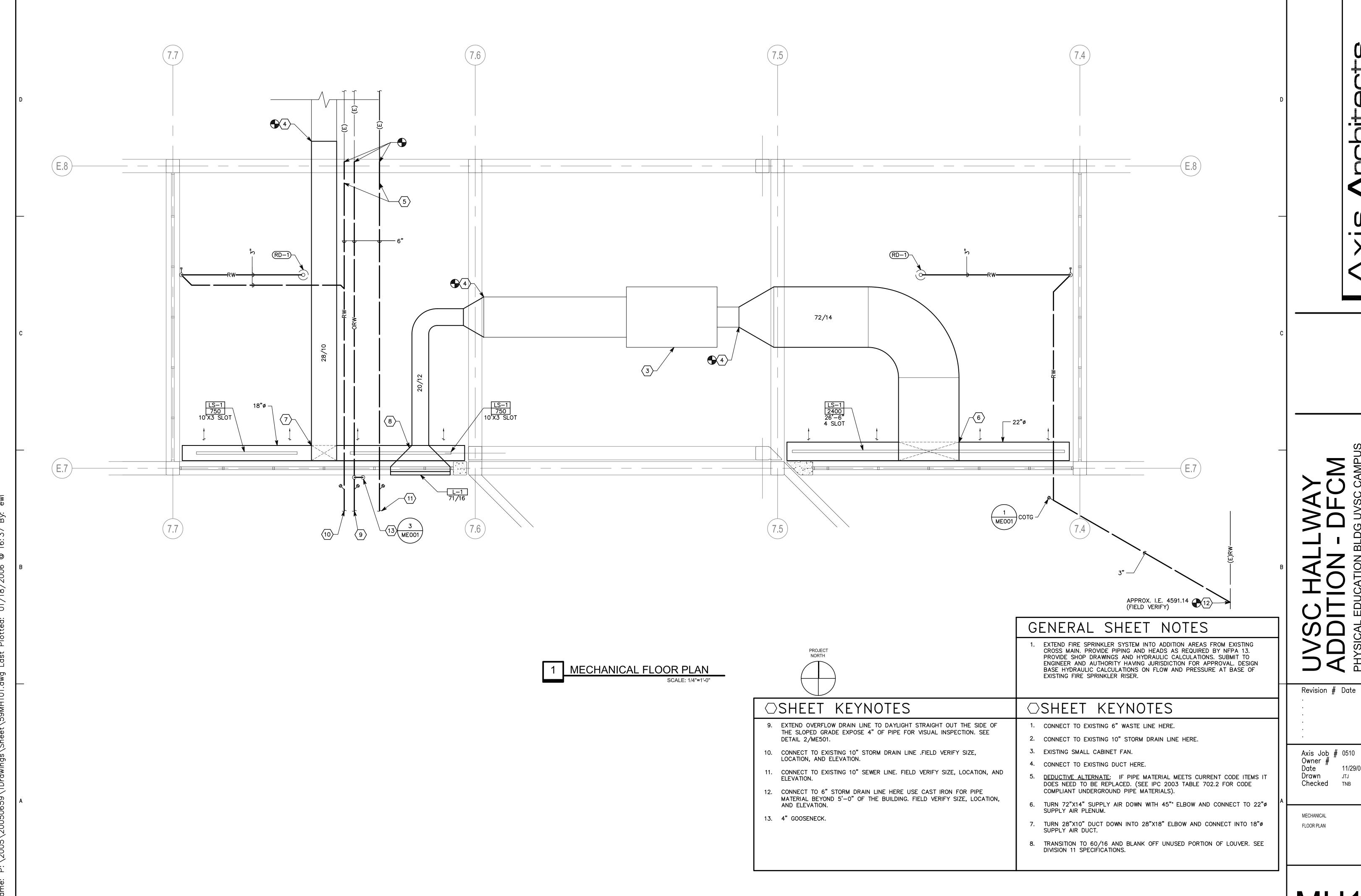
MECHANICAL SYMBOLS LEGEND AND SHEET INDEX

Checked

ME001

OVERFLOW ROOF DRAIN LINE - INSTALL 14" WIRE MESH RODENT GUARD COVER - INSTALL 24"X30" ARISTONE SB24—30 SPLASH BLOCK





Axis Job # 0510

Owner # Date Drawn JTJ Checked

MECHANICAL

TYPE DESCRIPTION CATALOG NUMBER VOLTS LA A ARCRAFT CABLE PENDANT MOUNTED LINEAR FLUORESCENT 1/2 x 1/2 ACRYLIC EGGCRATE LOUVER BLACK PAINT; ELECTRONIC BALLASTS; LENGTHS AS SHOWN ON DRAWINGS; PENDANT LENGTH PER ARCHITECT DEMOLITION NOTES 1. COORDINATE ALL NEW ELECTRICAL EQUIPMENT REQUIREMENTS AND MAKE CONNECTION EXISTING SYSTEMS. THIS INCLUDES LIGHTING, POWER, SIGNAL, RACEWAY AND OTHER SY INCLUDED UNDER DIVISION 16. 2. RELOCATE, REWIRE AND/OR RECONNECT EXISTING ELECTRICAL DEVICES AND/OR EQUIPMENT THAT FOR ANY REASON OBSTRUCTS CONSTRUCTION. 3. CONCEAL ALL RACEWAY AND WIRING IN EXISTING WALLS, CEILINGS, FLOORS, ETC. EXCE WHERE THE USE OF SURFACE METAL RACEWAYS (E.G. WIRE MOLD) IS INDICATED ON DRAWINGS ON SPEC. 4. LEAVE ALL EXISTING EQUIPMENT, IN PORTIONS OF THE BUILDING NOT BEING REMODELE WORKING CONDITION. 5. EXISTING RACEWAYS MAY BE RUSED (IN PLACE) WHERE POSSIBLE, AND WHERE IN COMPLIANCE WITH THE SPECIFICATIONS AND THE INTENT OF THE CONTRACT DOCUMENT. INSURE INTEGRITY OF EXISTING RACEWAY BEFORE REUSE.
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6. REMOVE ALL RACEWAYS, CONDUCTORS, BOXES, DEVICES, EQUIPMENT, ETC. THAT ARE N BE REUSED.
7. REMOVE EXISTING LIGHT FIXTURES WHICH ARE NOT TO BE REUSED, PLACE IN CARTON, APPROPRIATELY, AND RETURN TO OWNER, OR PROPERLY DISPOSE OF FIXTURES THAT OWNER CHOOSES NOT TO KEEP.
8. DO NOT PENETRATE STRUCTURAL ELEMENTS OF FLOORS, WALLS, CEILINGS, ROOFS, ETC.
9. DISCONNECT AND RECONNECT ANY/ALL FIXTURES, DEVICES, EQUIPMENT, ETC. REQUIRED PROPER COMPLETION OF THE WORK.

GENERAL NOTES

- CONSULT ARCHITECTURAL REFLECTED CEILING PLANS FOR EXACT LOCATION OF ALL LIGHTING FIXTURES.
- VERIFY ALL EQUIPMENT DIMENSIONS AND LOCATIONS BEFORE BEGINNING ROUGH IN. CONSULT ALL APPLICABLE CONTRACT DRAWINGS AND SHOP DRAWINGS TO INSURE NEC CODE CLEARANCES REQUIRED AROUND ALL ELECTRICAL EQUIPMENT.
- 3. CONTRACTOR SHALL VERIFY ALL ELECTRICAL LOADS (VOLTAGE, PHASE, CONNECTION REQUIREMENTS, ETC.) OF EQUIPMENT FURNISHED UNDER DIVISION 15 WITH APPROVED MECHANICAL SHOP DRAWINGS BEFORE BEGINNING ROUGH IN.
- SEE SECTION 16510 OF THE SPECIFICATION REQUIRED COORDINATION MEETINGS WITH MECHANICAL AND CEILING CONTRACTORS.
- SEE APPLICABLE SHOP DRAWINGS FOR ROUGH IN LOCATION OF ALL EQUIPMENT, WIRING DEVICES, ETC. WHERE APPLICABLE MOUNT ALL WIRING DEVICES ABOVE BACK SPLASH EXCEPT THOSE SERVING UNDER COUNTER EQUIPMENT.
- 6. SEE SPECIFICATION FOR ENERGY SAVING LAMP AND BALLAST REQUIREMENTS.
- 7. FINISHES OF ALL LIGHT FIXTURES SHALL BE AS SELECTED BY ARCHITECT.

- 8. THE ELECTRICAL CONTRACTOR SHALL NOTIFY AND COOPERATE WITH THE MECHANICAL CONTRACTOR SUCH THAT NO PIPING, DUCTS, OR EQUIPMENT FOREIGN TO THE OPERATION OF THE ELECTRICAL EQUIPMENT SHALL BE PERMITTED TO BE INSTALLED IN, ENTER OR PASS THRU ELECTRICAL ROOMS OR SPACES, OR ABOVE OR BELOW ELECTRICAL EQUIPMENT IN
- ELECTRICAL BOXES SHALL NOT BE LOCATED IN MASONRY COLUMNS IN BRICK WALLS OR IN GROUTED CELLS ADJACENT TO OPENINGS. COORDINATE LOCATION OF BOXES WITH MASONRY
- 10. ALL PENETRATIONS OF FIRE RATED FLOORS, WALLS, AND CEILINGS SHALL BE SEALED WITH APPROVED MATERIAL TO MAINTAIN FIRE RATING OF SURFACE PENETRATED.
- 11. CIRCUITS EXTENDING OVER 70' FOR 120 VOLT AND 165' FOR 277 VOLT 20 AMP CIRCUITS SHALL BE RUN WITH MINIMUM #10 CONDUCTORS.

INDEX OF ELECTRICAL DRAWINGS

EG101 SYMBOLS, SCHEDULES AND NOTES EE101 ELECTRICAL FLOOR PLAN

ELECTRICAL SYMBOL SCHEDULE

- SEE FIXTURE SCHEDULE FOR TYPE, MOUNTING AND WATTAGE.

 HEIGHT MEASURED TO CENTER LINE OF THE BOX FROM THE FINISH FLOOR.

 REFER TO DRAWINGS FOR DIRECTIONAL ARROWS.

 SUBSCRIPT KEYS SWITCH TO FIXTURES CONTROLLED.

 NEMA TYPE 'ND' NON-FUSED UNLESS NOTED 'F' (FUSED). USE 'HD' 480 V.

 HEIGHT TO BE THE LOWER OF EITHER 80" A.F.F. OR 6" BELOW CEILING.

 PROVIDE H.O.A. AND S.S. PUSHBUTTONS AS REQUIRED.

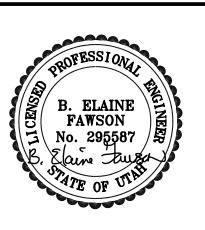
 DOUBLE ARROWS DENOTE A DOUBLE FACE UNIT.

 COORDINATE WITH MILLWORK SHOP DRAWINGS AND ELEVATIONS FOR HEIGHT.
- SUBSCRIPT DENOTES NEMA CONFIGURATION.

HEIGHT MEASURED TO BOTTOM OF THE BOX FROM FINISH FLOOR.

STANDARD	MOLINITING	LEICHT	LINII ESS	OTHERWISE	NOTED	ON	DI ANG
STANDARD	MOUNTING	ПЕІВПІ	UNLESS	OTHERWISE	NOTED	ON	L DAIA2

SYMBOL	DESCRIPTION	MOUNTING HEIGHT	NOTES	
	ONE CIRCUIT, TWO WIRE HOME RUN TO PANEL			
#	2 CIRCUIT, 3 WIRE, COMMON NEUTRAL HOME RUN			
#	3 CIRCUIT, 4 WIRE, COMMON NEUTRAL HOME RUN			
	CONDUIT UP			
	CONDUIT DOWN			
	CONDUIT STUB LOCATION	CAP CONDUIT		
	CABLE TRAY	AS NOTED		
0	FLUORESCENT LIGHT FIXTURE	AS NOTED	1	
	FLUORESCENT EGRESS LIGHT FIXTURE	AS NOTED	UNSWITCHED	-
\otimes	CEILING MOUNTED EXIT LIGHT	CEILING	1.3.8.	
\$	SINGLE POLE SWITCH	+4'-0"	2.	
	OCCUPANCY SENSOR	CEILING		
(4)	POWER PACK	CEILING	SEE DIAGRAM, SPEC.	
\bigoplus	DUPLEX RECEPTACLE	+16" OR AS NOTED	9. 11.	
₩P	WEATHERPROOF RECEPTACLE	+24" OR AS NOTED	2. 9.	
	MULTIPLE SERVICE FLOOR BOX	FLOOR		
	DATA OUTLET	+16" OR AS NOTED	9. 11.	
	PANEL BOARD	TOP AT +6'-0"		
H	FIRE ALARM SIGNAL HORN/STROBE	+6'-8"	6.	c
842	ARCHITECTURAL ROOM NUMBER			
A	LIGHT FIXTURE (LETTER DESIGNATES TYPE)			

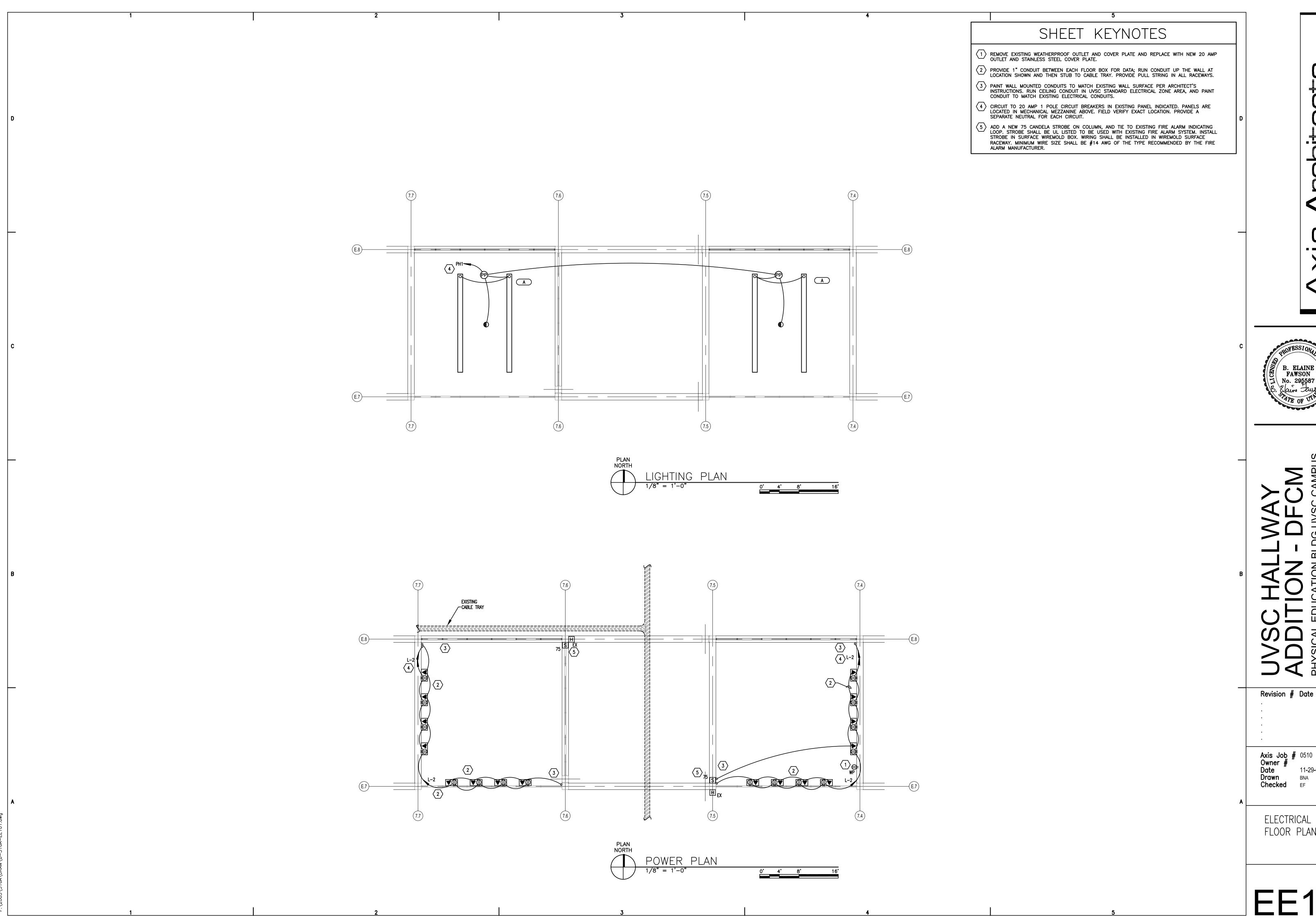


Revision # Date

Axis Job # 0510
Owner #
Date 11-29Drawn BNA
Checked EF

SYMBOLS, SCHEDULES AND NOTES

EG101



B. ELAINE FAWSON

Revision # Date

ELECTRICAL FLOOR PLAN

EE101